

FIG. 1

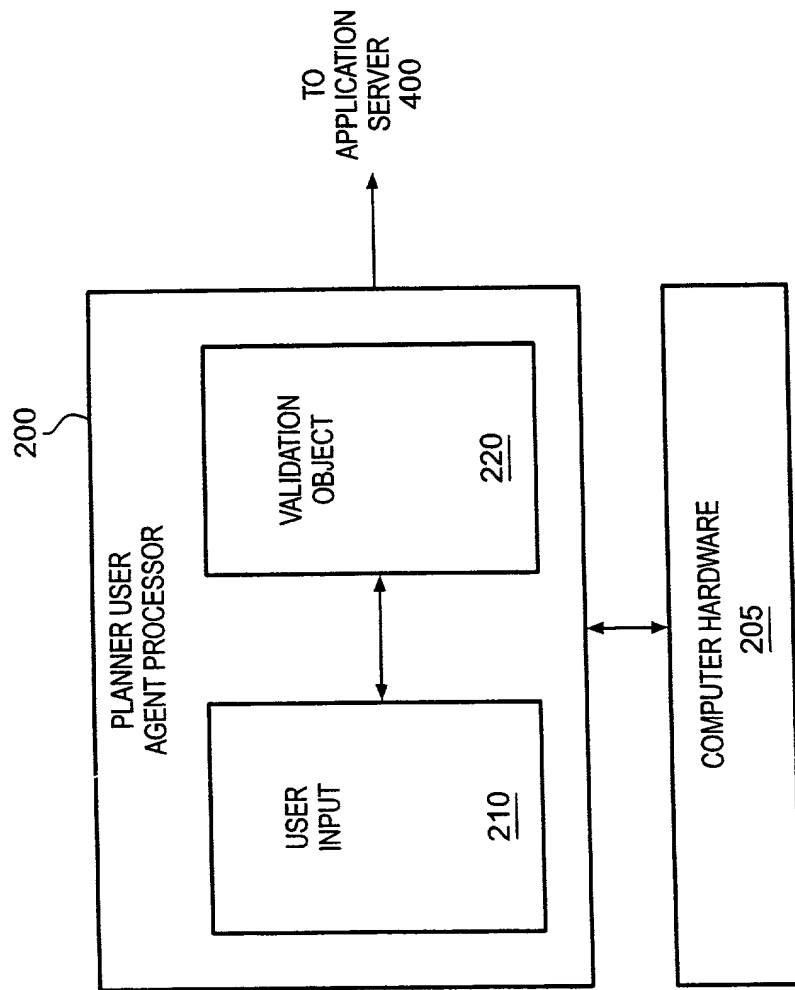


FIG. 2

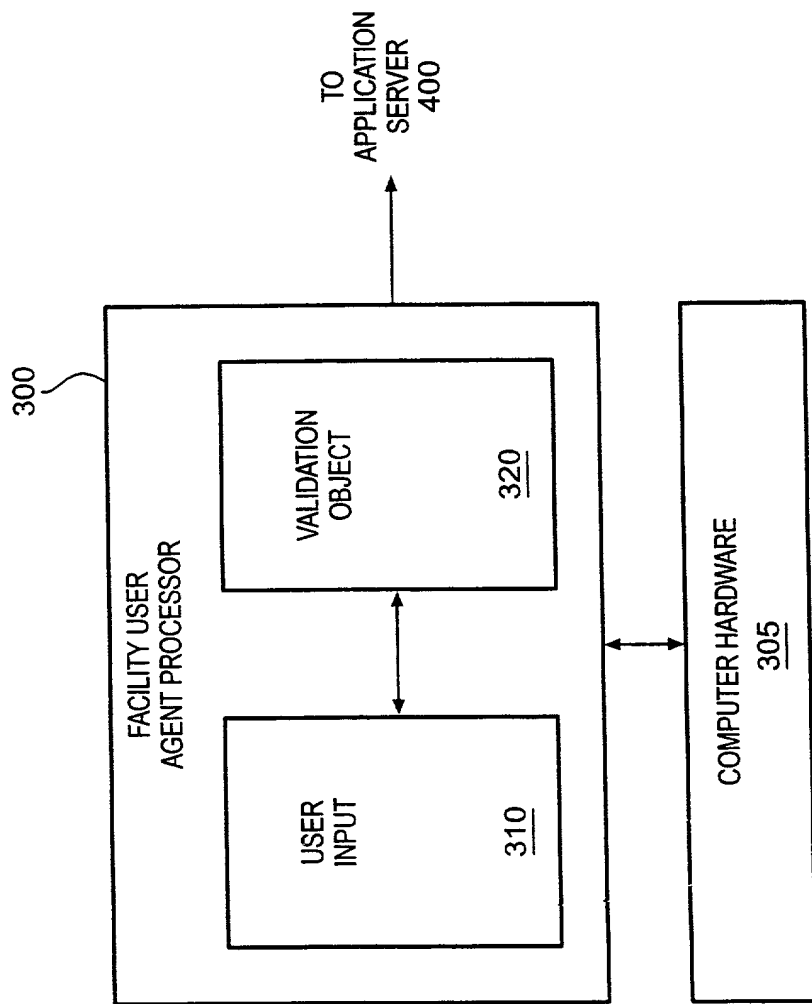


FIG. 3

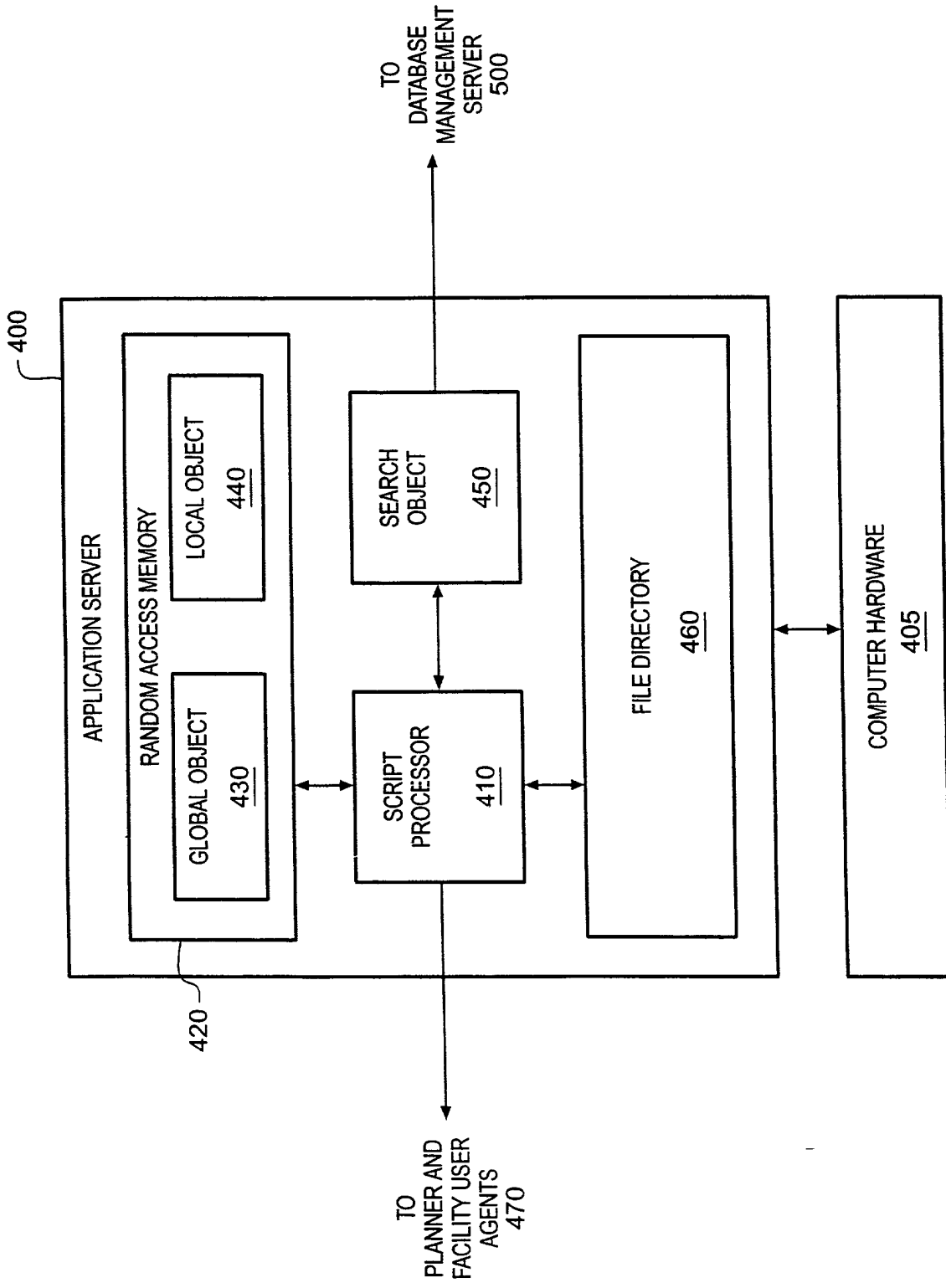


FIG. 4

2020-08-20 09:13:09

500

DATABASE MANAGEMENT SERVER

USER PROFILE TABLE

510

ORIGIN TABLE

520

TRANSPORTATION TABLE

530

METRO TABLE

540

PROPERTY TABLE

550

TO
APPLICATION
SERVER
400

FIG. 5

Method Calculate()

Parameters: PropertyArrays, ConferenceArray, AttendeeArray, MealArray,
TransportationArrays, OriginArrays (officeArray & AirportArray), MetroArray,
and UserProfile

For each property in PropertyArrays

Store transportation cost between property and each airport it serves in AirTranArray

Store filtered values from PropertyArrays to FilterValue

Store guestroom rate + applicable taxes from PropertyArray to LodgeCost

Store effective date to PropStart and PropEnd

Store quality from PropertyArrays to Quality

For each valid meal cost in MealArray where

$(\text{EffectiveStart} = \text{Max}(\text{PropStart}, \text{MealStart})) < (\text{EffectEnd} = \text{Min}(\text{PropEnd}, \text{MealEnd}))$

Store individual meal cost for property to MealCost

$\text{MealCost} = \text{Breakfast} + \text{Lunch} + \text{Dinner} + \text{Incidentals} - \text{Complimentary Meals}$

If $\text{MealCost} + \text{LodgeCost}$ for an attendee > MaxCost from UserProfile

Skip to next meal cost

EndIf

Call GetDist

Store total meal cost to TotalMeal

$\text{TotalMeal} = (\text{OnTime} \times \text{MealCost} \times (\text{NumDays} - ((1 - \text{FirstDay}\%) + (1 - \text{LastDay}\%)))) + ((\text{Visitors} - \text{OnTime}) \times \text{MealCost} \times ((\text{NumDays} + 1) - ((1 - \text{FirstDay}\%) + (1 - \text{LastDay}\%)))) + \text{Local} \times \text{NumDays} \times \text{LocalMeal}\%$

Store total lodging cost to TotalLodge

$\text{TotalLodge} = (\text{OnTime} \times (\text{NumDays} - 1) \times \text{LodgeCost}) + ((\text{Visitors} - \text{OnTime}) \times \text{NumDays} \times \text{LodgeCost})$

For each office in OfficeArray where distance to Hotel < MaxOfficeDist in MetroArray

Store local transportation cost to LocalTrans

LocalTrans = 0 if free shuttle from Hotel to Office is available, otherwise

LocalTrans = $\text{Min}((\text{Distance} \times \text{Taxi}), \text{AltOffTrans})$

Call TransCost Method and store result in TotalTrans

Store all-inclusive meeting cost to TotalCost

$\text{TotalCost} = (1 + \text{MiscExpense}) \text{ from UserProfile} \times (\text{TotalTrans} + \text{TotalMeal} + \text{TotalLodge})$

Store current results to OfficeResultsArray

This includes HotelID, OfficeID, RateID, MealID, TotalCost, Quality, FilterValue, Visitors, OnTime, EffectStart, EffectEnd

Endfor

Store 0 to LocalTrans

Call TransCost Method and store result in TotalTrans

With least expensive conference room in ConferenceArray which meets meeting requirements where $(\text{TotalStart} = \text{Max}(\text{EffectStart}, \text{ConfStart})) < (\text{TotalEnd} = \text{Min}(\text{EffectEnd}, \text{ConfEnd}))$

Store conference room cost to ConfCost

$\text{ConfCost} = (\text{ConfRate} \times \text{NumDays})$

Store all-inclusive meeting cost to TotalCost

$\text{TotalCost} = (1 + \text{MiscExpense}) \text{ from UserProfile} \times (\text{TotalTrans} + \text{TotalMeal} + \text{TotalLodge} + \text{ConfCost})$

Store current results to HotelResultsArray

This includes HotelID, RateID, MealID, ConfID, TotalCost, Quality, FilterValue, Visitors, OnTime, TotalStart, TotalEnd

Endwith

Endfor

Endfor

EndMethod (Return OfficeResultsArray, HotelResultsArray)

09991883-020602

Method TransCost()
Parameters: PropLatitude from PropertyArrays, PropLongitude from PropertyArrays
AirTranArray, AttendeeArray, TransportationArrays (AirfareArray), MetroArray
UserProfile and LocalTrans

For each attendee group in AttendeeArray
Store number of attendees in each group to NumAttendees
If Distance > maximum driving distance
Increment TotalAir with total airfare cost
Take min airfare between all airport pairs from origin to destination:

$$\text{Min}((\text{OneWayAir} + \text{OriginTrans} + \text{DestTrans}) + (\text{LocalTrans} \times \text{NumDays})) \times (\text{NumAttendees} \times 2)$$
Else
If Distance > LocalDist
Store distance from hotel to office to OffDist
Increment TotalDrive with DriveCost

$$\text{DriveCost} = ((\text{Distance} + (\text{OffDist} \times \text{NumDays})) + \text{MileReimburse}) \times (\text{NumAttendees} \times 2)$$
Else
Increment TotalDrive with LocalDrive

$$\text{LocalDrive} = ((\text{Distance} \times \text{MileReimburse}) + \text{LocalTrans}) \times (\text{NumAttendees} \times \text{NumDays} \times 2)$$
EndIf
EndIf
EndFor

Store TotalAir + TotalDrive to TotalTrans
EndMethod (Return TotalTrans)

602

Method GetDist()
Parameters: AttendeeArray, PropLatitude, PropLongitude, OriginArrays

For each attendee group in AttendeeArray
Store distance between origin point and property to Distance in AttendeeArray
Distance can be calculated using latitude and longitude of the property and the origin
If Distance < LocalDist
Increment Local with number of attendees in attendee group
Else
Increment Visitors with number of attendees in attendee group
If Distance < ExtraDayDist
Increment OnTime with number of attendees in attendee group
Else
Increment ExtraDay with number of attendees in attendee group
EndIf
EndIf
EndFor

603

FIG. 6B

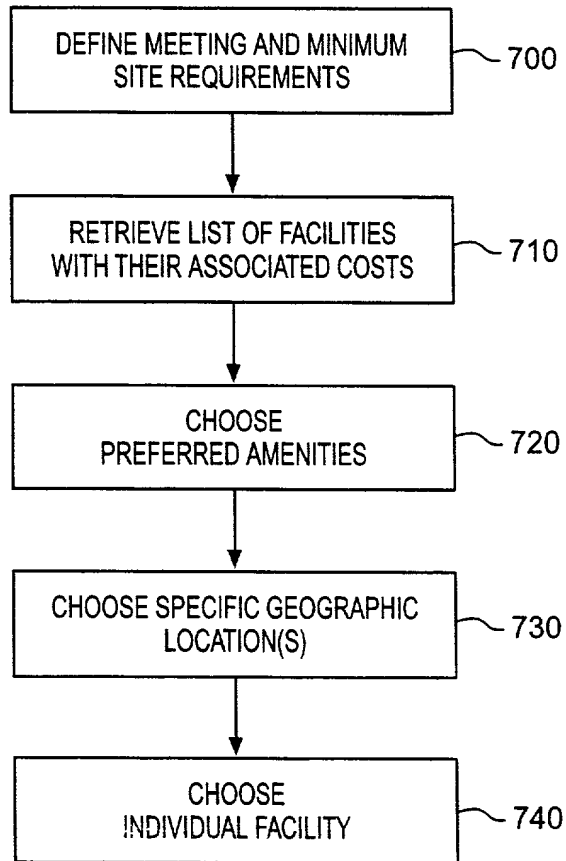


FIG. 7

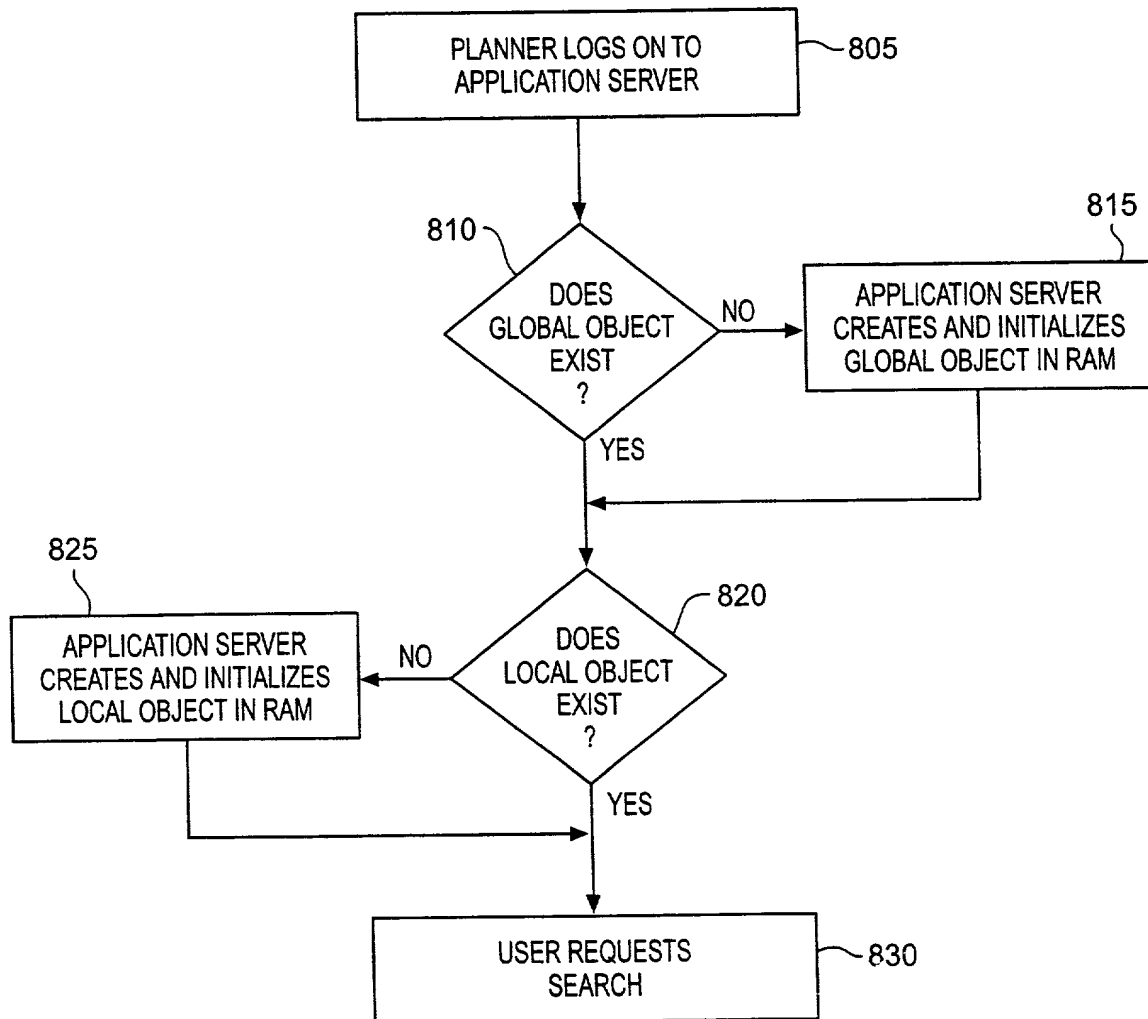


FIG. 8

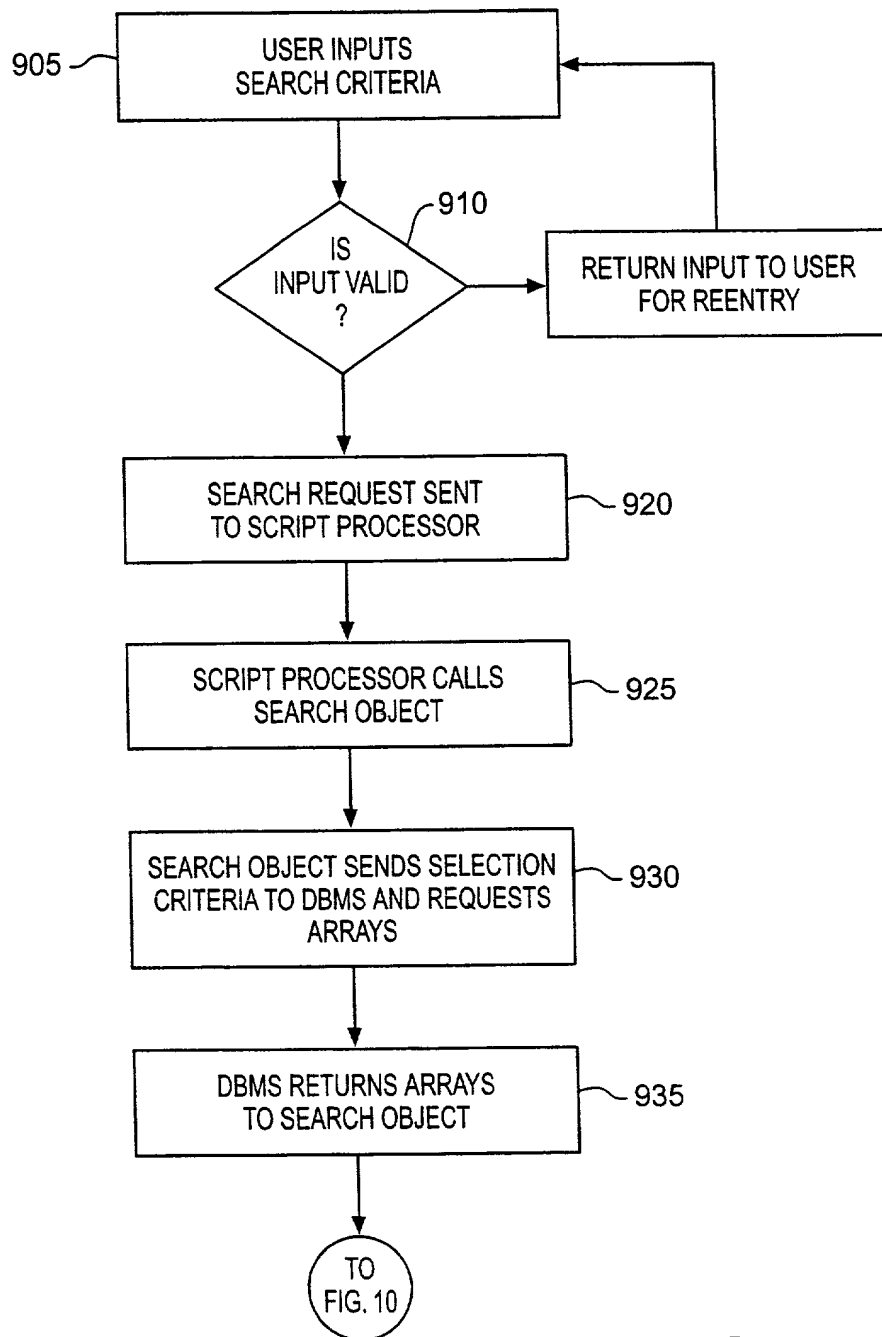


FIG. 9

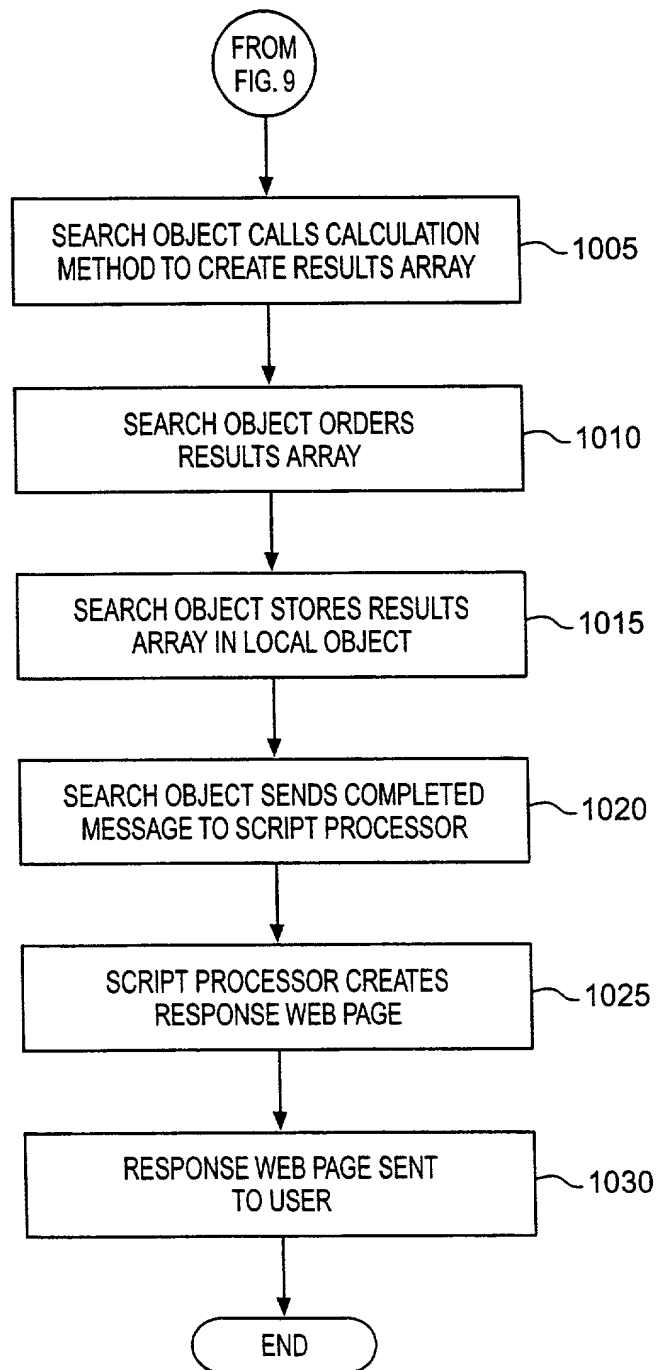


FIG. 10

1100

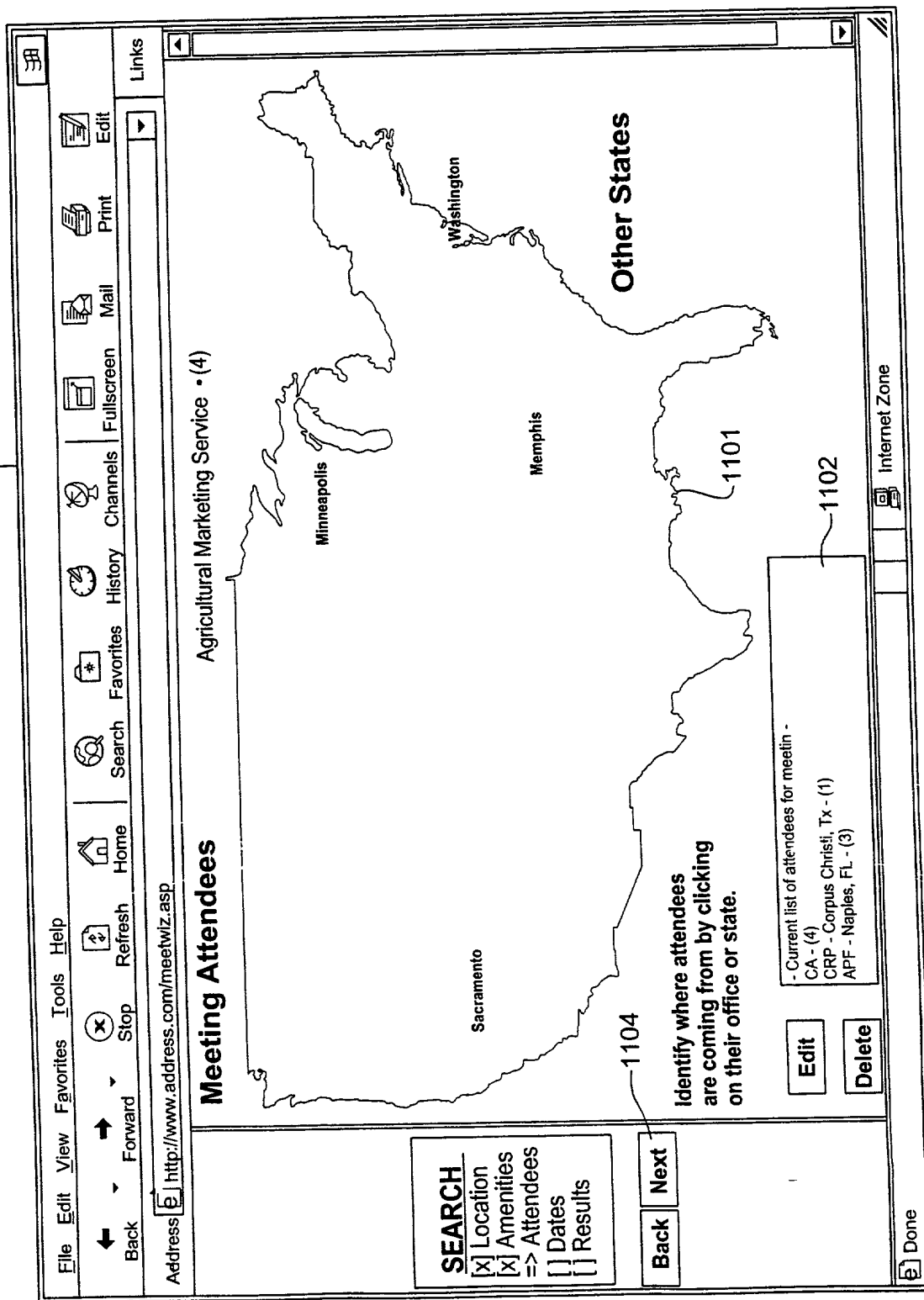


FIG. 11

Meeting Dates

3/17/1999

3 ▾

3/2/1999

4/3/1999



February 1999						
1	2	3	4	5	6	
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28						

January 1999						
				1	2	
				3	4	5
				6	7	8
				9	10	11
				12	13	14
				15	16	17
				18	19	20
				21	22	23
				24	25	26
				27	28	29
				30	31	

April 1999						
				1	2	3
				4	5	6
				7	8	9
				10	11	12
				13	14	15
				16	17	18
				19	20	21
				22	23	24
				25	26	27
				28	29	30

March 1999						
				1	2	3
				4	5	6
				7	8	9
				10	11	12
				13	14	15
				16	17	18
				19	20	21
				22	23	24
				25	26	27
				28	29	30
				31		

FIG. 12

Search Results - For Selection Report

Preferred Date 3/17/99

Sorted by

☒ Lowest Cost (3+)

☐ Highest Quality (3+)

etings Held At

Hotel/Conference Facility

Office/Military Base

1303

1302

Request Amenities

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Hotels/Conference Facilities		Property - Location	Quality Rating	Special Rate Dates	Estimated Total Cost*
<input type="checkbox"/> 1.	Travelodge Main Gat	3	Feb 1 - Apr 30	\$4,695	
<input type="checkbox"/> 2.	Holiday Inn Cypress	3	Jan 1 - Apr 30	\$4,708	
<input type="checkbox"/> 3.	Days Inn Rocky Point	3	Jan 1 - Apr 30	\$4,728	
<input type="checkbox"/> 4.	Days Inn St. Petersburg	3	Jan 1 - Apr 30	\$4,786	
<input type="checkbox"/> 5.	Best Western Clearv	3	Jan 1 - Apr 30	\$4,821	
<input type="checkbox"/> 6.	Comfort Inn - Orland	3		\$4,824	
<input type="checkbox"/> 7.	Days Inn Cocoa - Co	3		\$4,903	
<input type="checkbox"/> 8.	Holiday Inn Central P	3		\$5,041	
<input type="checkbox"/> 9.	Comfort Inn - Hollyw	3	Jan 1 - Apr 30	\$5,069	
<input type="checkbox"/> 10.	Tampa Airport Hilton at Metrocenter - Tampa, FL	3	Jan 1 - Apr 30	\$5,084	
<input type="checkbox"/> 11.	Hampton Inn of Sarasota - Sarasota, FL	3	Jan 1 - Apr 30	\$5,254	

FIG. 13

1301

Search Results - For Selection Report

Preferred Date 3/17/99

Sorted by

☒ Lowest Cost (3+ stars)
☐ Highest Quality (within Per Diem)

Meetings Held At

☒ Hotel/Conference Facility
☐ Office/Military Base

Hotels/Conference Facilities Ordered by Lowest Cost

Select	Property - Location	Quality Rating	Special Rate Dates	Estimated Total Cost*
<input type="checkbox"/> 10.	Tampa Airport Hilton at Metrocenter - Tampa, FL	3	Jan 1 - Apr 30	\$5,084
<input type="checkbox"/> 18.	Orlando Marriott - Orlando, FL	3		\$5,518
<input type="checkbox"/> 20.	Comfort Inn & Suites - Miami, FL	3	Jan 1 - Apr 30	\$5,567
<input type="checkbox"/> 22.	Sheraton University Inn - Orlando, FL	3		\$5,626
<input type="checkbox"/> 25.	Quality Inn - Naples, FL	3	Jan 1 - Apr 30	\$5,674
<input type="checkbox"/> 40.	Best Western McCarran House Inn - Sparks, NV	3		\$6,486
<input type="checkbox"/> 64.	Continental Plaza Los Angeles Airport - Los Angeles, CA	3		\$6,930
<input type="checkbox"/> 72.	Flamingo Resort - Santa Rosa, CA	3		\$7,048
<input type="checkbox"/> 91.	Embassy Suites - Phoenix, AZ	3	Jan 1 - Apr 30	\$7,205
<input type="checkbox"/> 103.	Holiday Inn - Oklahoma, City, OK	3		\$7,317
<input type="checkbox"/> 106.	Holiday Inn - Phoenix, AZ	3	Jan 1 - Apr 30	\$7,346

FIG. 14

1402

1403